



## M 6.4, 7km ENE of Cumbio, Philippines

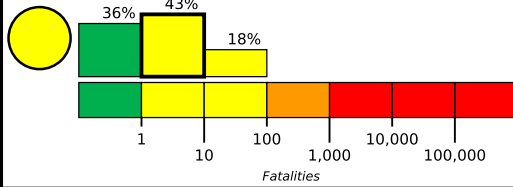
Origin Time: 2019-10-16 11:37:05 UTC (Wed 19:37:05 local)

Location: 6.7138° N 125.0012° E Depth: 12.8 km

FOR TSUNAMI INFORMATION, SEE: [tsunami.gov](http://tsunami.gov)

Created: 3 weeks, 3 days after earthquake

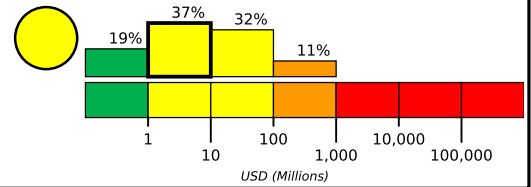
### Estimated Fatalities



Yellow alert for shaking-related fatalities and economic losses. Some casualties and damage are possible and the impact should be relatively localized. Past yellow alerts have required a local or regional level response.

Estimated economic losses are less than 1% of GDP of Philippines.

### Estimated Economic Losses

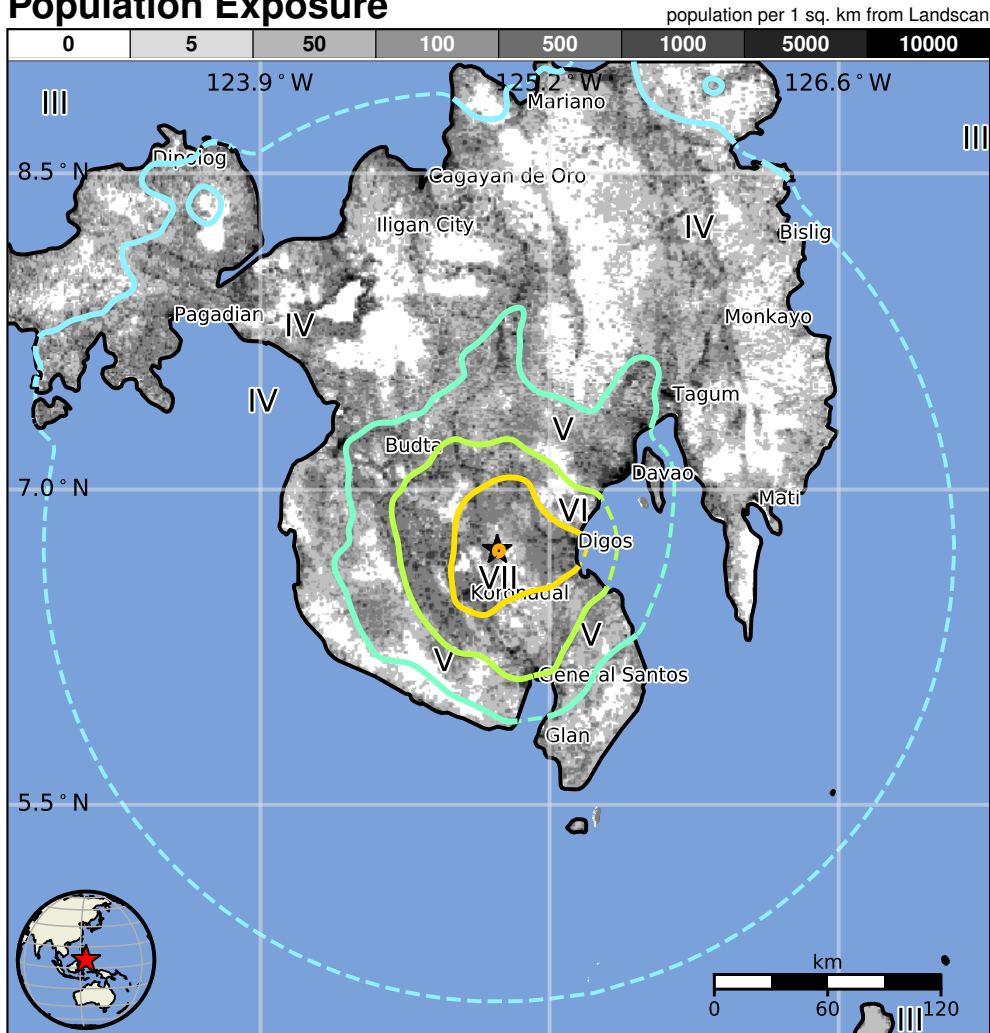


### Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k=x1000)		—*	806k*	12,103k	3,867k	3,189k	1,366k	20k	0	0
ESTIMATED MODIFIED MERCALLI INTENSITY		I	II-III	IV	V	VI	VII	VIII	IX	X+
PERCEIVED SHAKING		Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	Resistant Structures	None	None	None	V. Light	Light	Moderate	Mod./Heavy	Heavy	V. Heavy
	Vulnerable Structures	None	None	None	Light	Moderate	Mod./Heavy	Heavy	V. Heavy	V. Heavy

\*Estimated exposure only includes population within the map area.

### Population Exposure



### Structures

Overall, the population in this region resides in structures that are a mix of vulnerable and earthquake resistant construction. The predominant vulnerable building types are reinforced concrete and unknown/miscellaneous types construction.

### Historical Earthquakes

Date (UTC)	Dist. (km)	Mag.	Max MMI(#)	Shaking Deaths
1975-03-10	339	5.2	VII(4k)	0
1989-12-15	261	7.5	VIII(1k)	2
2002-03-05	116	7.5	VIII(12k)	15

Recent earthquakes in this area have caused secondary hazards such as landslides that might have contributed to losses.

### Selected City Exposure

from GeoNames.org

MMI	City	Population
VIII	Telafas	2k
VIII	Cumbio	6k
VII	Magsaysay	17k
VII	Bual	5k
VII	Digos	116k
VII	Balutakay	3k
VI	Davao	1,213k
IV	Cotabato	179k
IV	Cagayan de Oro	445k
IV	Butuan	310k
IV	Pagadian	187k

PAGER content is automatically generated, and only considers losses due to structural damage.

Limitations of input data, shaking estimates, and loss models may add uncertainty.

<https://earthquake.usgs.gov/earthquakes/eventpage/us70005ulm#pager>

bold cities appear on map.

(k = x1000)

Event ID: us70005ulm